The Making of the "Report Card on Washington's Health"

Kay A. Knapp, Consultant
Washington State Department of Health
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Introduction

The 1995 Public Health Improvement Implementation Act directed the Department of Health (DOH) to "identify, as part of the public health improvement plan, the key health outcomes sought for the population….". Part of the Department of Health's action plan to fulfill that responsibility was to issue a "health report card."

The action plan called for the involvement of many people to select the core set of indicators for the report card. DOH established a nineteen member "Washington State Key Health Indicators Steering Committee" (Appendix A) representing public and private health agencies, state and local health agencies, health foundations, academia, family and community interests, and citizens. The Steering Committee held four day-long meetings from July through November, 2000 with additional interim work done via e-mail. The Washington Report Card on Health (Figure 1) was finalized in December.

Figure 1 – Report Card

Report Card on Washington's Health—"How healthy are we?"

General Health Indicators

Years of healthy life **Perceived mental health** **Readiness to learn**

Specific Health Indicators

"How safe and supportive are our surroundings?"

"**How safe are our food, water and air?"**
- Illnesses commonly associated with unsafe food and water
- Air quality

"**How safe and supportive are our communities?"**
- Economic
  - % below poverty threshold
- Social connectedness
  - Civic involvement, interpersonal trust, high school graduation rates
- Injuries and death
  - Unintentional—traffic, poisoning, drowning, fires, falls
- Family violence
- Homicides and suicides

"**How supportive is our health care system?"**
- Unmet need—adults, children
- Vaccine preventable diseases

"How healthy are our behaviors?

"**Do we use tobacco products?"**

% non-smokers

"Do we get good nutrition?"

5 fruits and vegetables a day

"Are we physically active?"

30 minutes – 5 times a week

"**Do we abuse alcohol or other drugs?"**

Binge drinking – 5 + drinks

The Report Card on Washington's Health was distilled from six months of rich and thought provoking discussions. During the development, the Committee

examined and referenced many existing sets of health and community health indicators. The conceptual work of the Committee addressed framework issues of audience, purpose, scope, and focus. A key conceptual issue for the Committee was the organizing structure around which to present health indicators. Operating guidelines for inclusion and exclusion of indicators were discussed throughout the process. Both philosophical and pragmatic considerations guided the specific selection of indicators and measures.

The Report Card on Washington's Health is unique in that it is short, it is built upon extensive public health knowledge and knowledge from other disciplines, and it is designed to speak to the public as well as to a professional audience. That is an impressive accomplishment. This document attempts to capture the thought, information, intelligence and creativity that went into the making of the Report Card on Washington's Health. The story is told in three stages: 1) the comprehensive review of existing indicator sets; 2) key conceptual issues—framework, operating guidelines, and organizing structure of the report card; and, 3) specific selection of indicators and measures.

I. Comprehensive Review of Indicators

From the beginning, the Department of Health wanted to take an inter-disciplinary approach in thinking about the report card. They wanted to focus on health, not disease. And they wanted a community perspective brought to bear in creating a vision of health.

DOH was clear that they did not want to develop new indicators. Rather, they wanted to use the process to select from existing indicators. In particular, they wanted to draw upon "Healthy People 2010" objectives, *The Health of Washington State*, and Washington local health assessments in selecting the indicators.

There is an embarrassment of riches with respect to health indicators. Public health agencies have thoughtfully developed numerous indicator sets. The types of indicators often included in indicator sets relate to:

health results -- morbidity, mortality, injury and disability
health process and access to health care
prevention
causal factors – environmental, social, behavioral

Some health indicator sets are specific to particular stages in the life course, such as maternal and infant health, or the health of teens or aging populations. Many health providers and professional organizations also develop indicator sets for various purposes. When the scope of health is broadened to community and social health as well as individual health, the indicator sets expand even more.

The myriad of indicators were scanned for the Committee, bringing both representative and unique sets to the Committee for more detailed review. Most of the indicator sets fall into one of five categories: national public health, state and local public health, state and local community health, international public health, and life-course health. Illustrative sets of indicators are shown throughout the text. Additional illustrative indicator sets are shown in Appendix B.

National Public Health Indicators

The Committee referenced the ten key health indicators from ***Healthy People 2010*** (Figure 2) throughout their deliberations. This is probably the most widely recognized indicator set in the public health community. The indicators are primarily causal factors contributing to health or to disease, with access to health care added in. *Healthy People 2010* also tracks years of healthy life as the summary measure of health status.

The Health of Canadians includes a comprehensive set of approximately 80 indicators. The indicators are divided into health determinants (social and economic environment, physical environment, health services, personal resources and coping, health knowledge, and lifestyle behaviors) and health status (well-being, general health and function, injuries, conditions and diseases, and death).

Figure 2 – Healthy People 2010

HEALHY PEOPLE 2010

Leading Health Indicators

- Physical activities
- Overweight and obesity
- Tobacco use
- Substance abuse
- Responsible sexual behavior
- Mental health
- Injury and violence
- Environmental quality
- Immunization
- Access to health care

The National Public Health Performance Standards defined the areas of health status that public health should monitor. It is essentially a description of the types of data that should be collected. The areas of monitoring include health risk factors, mortality, morbidity, environmental risks, and access to health care.

State and Local Public Health Indicators

The Health of Washington State was a significant touchstone throughout report card development process. The set contains indicators of general health status, major risk and protective factors, non-infectious disease occurrence, incidences of violence and injury, family and individual health, environmental health, and indicators of the health system. Indicators are limited to areas of health for which DOH has a programmatic presence. The report is designed for a public health audience.

Oregon was the first state to develop a comprehensive set of ***Benchmarks*** to track state progress across a number of areas, including health. The benchmarks have a social support section that includes health, protection, poverty and independent living. The health section includes two global measures—perceived health status and years of potential life lost. Various health conditions are also included, but there is no organizational structure that differentiates health results from conditions. The Oregon health benchmarks are shown in Figure 3.

Protection factors in the Oregon benchmarks include teen tobacco, alcohol and illicit drug use, child abuse, and use of alcohol and tobacco during pregnancy. The poverty section includes incomes below Federal poverty level, lack of health insurance, homelessness, and court ordered child support. Independent living includes seniors living independently, vocationally independent disabled, and disabled living in poverty. Other sections of the benchmarks include national rank in health care costs, children entering school ready to learn, drinking water standards, ambient air quality standards, and carbon dioxide emissions.

Figure 3 – Oregon Health Benchmarks

Oregon Benchmarks for Health

Teen pregnancies
Prenatal care
Infant mortality rate
Immunizations at two
HIV with early diagnosis
Tobacco use
YPPL—years of potential life lost before 70
Perceived health status of very good or excellent
Affordable child care
Number of child care slots available

Communities Working Together for a Healthier New York track 12 areas related to health, shown in Figure 4. The areas are similar to those tracked by *Healthy People 2010.*

Figure 4 – Communities Working Together for a Healthier New York

- Access to and delivery of health care
- Education
- Healthy births
- Mental health
- Nutrition
- Physical activity
- Safe and healthy work environment
- Sexual activity
- Substance abuse
- Tobacco use
- Unintentional injury
- Violent and abusive behavior

Healthy Minnesotans track causal factors, life-stage health measures, and measures of health or disease. The areas examined include substance abuse, chronic/noninfectious disease, disability/decreased independence, environmental conditions, health, growth and development of children and adolescents, infectious disease, mental health, pregnancy and birth, service delivery systems, unintended pregnancy, unintentional injury and violence.

Counties in Washington state developed indicator sets to track ***local public health***. The counties did not use a common template in developing their indicators, but many were organized around areas of the human (behavioral) environment, physical environment, maternal and infant health, infectious diseases, non-infectious diseases, unintentional and intentional injury, social health, and access to health care. Two of the local health assessments that the Steering Committee referred to throughout the development process were ***The Health Status of Thurston County*** and ***Health of King County***. Domains for a comprehensive community health profile are provided in ***The Local Public***

Health System Performance Standards Instrument. The indicators for these local assessments and domains are included in Appendix B.

State and Local Community Health

The inter-relationship between community health and individual health has gained attention in public health and and social science disciplines. Research into social epidemiology (e.g., *Social Epidemiology*, Berkman and Kawachi, ed.) is converging with efforts of social and political leaders to create healthy communities. The Steering Committee was challenged to integrate that perspective with the more traditional public health perspective, and to communicate that integration in a short report card.

Jacksonville, Florida provides an early example of community health indicators. That jurisdiction looked at seven domains, including: culture/recreation, economy, education, government/politics, health, mobility, and natural environment. ***Pasadena, California*** provides another example, as shown in Figure 5.

Figure 5 – The Quality of Life in Pasadena

Indicator Areas
Alcohol, Tobacco and Other Drugs
Arts and Culture
Community Safety
Economy and Employment
Education
Environment
Health
Housing
Recreation and Open Spaces
Transportation

The Social Health of the Nation (Miringoff and Miringoff) identify sixteen social indicators (see Figure 6), categorized by age.

Figure 6 – Social Indicators by Age

Children	**Youth**	**Adults**	**Aging – 65+**	**All ages**
Infant mortality Child abuse Child poverty	Youth suicide Teenage drug use High school dropouts Teenage births	Unemployment Wages Health care coverage	Poverty Life expectancy	Violent Crime Alcohol-related traffic fatalities Affordable housing Inequality

Community Counts 2000: Social and Health Indicators in King County looks at basic needs, development through life stages, safety and health and community strength (see Appendix B). ***San Diego County*** included economics, health, access to services, safety and education for its community health domains. ***The United Way State of Caring Index***, analyzes 32 social

and economic indicators in six key areas: economic and financial well-being, education, health, volunteerism/charity/civic engagement, safety, and natural environment and other factors. ***The Joint Center for Sustainable Communities*** is a collaboration of the National Association of Counties and the U.S. Conference of Mayors. The focus of the organization is to create partnerships to pursue economic prosperity, environmental protection and social equity using community indicators to measure progress in these areas. ***The Washington State Family Policy Council*** focuses on thriving families and concentrates on seven domains: health, safety, academic achievement, social support/integration, appropriate human development, child/family bond, and economic stability/basic needs.

Mobilizing for Action Through Planning and Partnership (MAPP) has identified eleven categories with accompanying indicators to track in order to improve community health. The eleven categories are displayed in Figure 7.

Figure 7 – MAPP Categories

Categories for Tracking

1. Demographic Profile
2. Socioeconomic Characteristics
3. Health Resource Availability
4. Quality of Life
5. Behavioral Risk Factors
6. Environmental Health Indicators
7. Social and Mental Health
8. Maternal and Child Health
9. Death, Illness, and Injury
10. Communicable Disease
11. Sentinel Events

International Public Health

The primary contribution of international public health indictors to this project is global measures of health status that have been developed for comparative purposes. The global measures tend to be robust in that they incorporate a substantial amount of information about the health status of the individual and/or group. *Healthy People 2010* uses "years of healthy life" to compare the health status of the United States with other jurisdictions. This has considerable intuitive appeal because most people want to live a long and healthy life, with the emphasis on "healthy." "Years of healthy life," also known as "quality-adjusted life years," incorporates both quality of life and life expectancy. The quality of life component includes perceived health status (excellent, very good, good, fair or poor) and activity limitations (unable to perform major activity—play, school or work, depending upon age; or limited in activities of daily or other activities).

Other quality of life measures define health in terms of mobility, self-care, main activity, pain, mood, and social relationships (EuroQOL); physical, role, and

social and emotional function as well as health problems (HUI-I); and mobility, physical activity, social activity, and symptoms and problems (Quality of Well-Being Scale). The new World Health Organization Disability Assessment Schedule II (WHODAS II) treats all disorders at parity when determining level of functioning. The domains of functioning assessed by the WHODAS II include understanding and communicating, getting around, self-care, getting along with others, household and work activities, and participation in society. It assesses functioning at the individual level instead of the disorder-specific level and therefore the total impact of co-morbid conditions (e.g., depression and diabetes) is straightforward to assess.

Health Across the Life-Course

Many indicator sets incorporate at least some life-course health indicators. Maternal and child health are often targeted for specific measures, as are the teen years. However, some indicator sets are primarily targeted at a specific life-stage or at the various life stages. For example, most of the indicators from *The Social Health of the Nation,* as shown in Figure 6, are age-specific. ***The California Health Report Indicator Set*** is organized around five life stages including infants (under one year), children (one through nine years), adolescents (ten through nineteen years), adults (20 – 64 years), and elderly (65 and older). This indicator set is extensive, consisting of meta-determinants of health across the life-course, as well as health and well-being outcomes across the life-course.

We examined indicators from advocacy and policy groups that focus on targeted populations. ***Washington Kids Count*** track indicators in the areas of family and community, economic conditions, health, education, and safety and security. ***America's Children: Key National Indicators of Well-Being 2000*** includes 23 indicators of well-being in the areas of economic security, health, behavior and social environment, and education. ***The Child and Adolescent Health Measurement Initiative*** promotes measurement and measurement tools, including the *Promoting Healthy Development* quality measurement set for children through four years of age; the *Young Adult Health Care* quality measurement set for teenagers 14 through 18 years old; and, the *Children with Special Health Care Needs* quality measurement set for children through thirteen years of age. Measures from ***The Maternal and Child Health Bureau*** are directed at outcome goals, national performance measures, and health status indicators.

In addition to the indicators from national public health, state and local public health, state and local community health, international public health, and health across the life-course, we looked at indicators directed toward the health system. ***The Pulse Indicators: Taking the Pulse of Washington's Health System*** was referred to throughout the Report Card development process.

2. Key Conceptual Issues

Basic framework issues underlie all indicator sets. Framework issues include the audience for the indicators, purpose for the indicators, and focus of the measures. There are numerous combinations of responses to these framework issues and that results in the proliferation of indicator sets noted above.

Some of the framework parameters for this project were provided in the legislation, which charged public health with developing a set of indicators that are easily understood by the public. The indicators are also to be used to inform policy makers about the status of health, where health is improving, and what health issues need response. The Steering Committee spent the first stage of their deliberations fleshing out these and other framework issues.

Framework

Audience. The legislative direction noted two audiences for the indicators—the public and policy makers. The Steering Committee determined that local public health officials and private-sector health care insurers and providers were also important audiences of, or possibly stakeholders in, the report card. All audiences were deemed important, but it was agreed that a single set of indicators would not satisfy all audiences.

Conflicts among different audiences about the relevance and importance of various indicators could be resolved by dedicating particular indicators to different audiences. This approach tends to result in large indicator sets, and such sets tend to lack a clear and coherent vision regarding health. Another way to resolve conflicts is to create a hierarchy of audiences, with one audience (e.g., the public) designated the "highest denominator" with other audiences following. When there are conflicts, the audience with the higher order trumps the others.

The Steering Committee did not initially select a conflict resolution method, but rather resolved perceived conflicts between audiences in an *ad hoc* way. However, throughout the deliberations perceived conflicts were consistently resolved in favor of the public as the primary audience for the report card. This was particularly clear when considering the inclusion of indicators of the health system. Ultimately, the concept of "unmet health care needs" was included. "Unmet needs" is a notion that captures what people experience more than it captures any specific functioning of the health care system.

The concepts of "public," "citizens," and "taxpayers" were discussed with respect to the primary audience. There was no closure regarding the exact focus for the report card, but the Steering Committee was clear that "the public" was differentiated from special interests groups in the community—those with a semi-organized connection with, or a specific point of view regarding, the health system.

The time frame for the Committee's work was too constricted to formally test their work with the public through focus groups or surveys. In addition to having citizen membership on the Steering, members were encouraged to test out the Committee's work by frequently thinking about how their neighbors, friends or family might react, or by asking for their opinions between meetings.

Purpose and Accountability. The purposes to be served by the indicators is another basic framework issue. Committee members expressed frustration regarding the general disconnect between measured outcomes and funding decisions.

The Committee determined that the primary purpose of the report card is to focus attention and engage people around key health issues. The consequence of that mobilization along with the information about the key health issues to understand and to improve the health status of people in Washington state.

In order to accomplish the purpose, the Committee deemed that it was critical to ensure that it is the state's report card, not the Department of Health's or public health's (narrowly conceived) report card. The accountability associated with the report card is of public health broadly conceived, including the public and private health care systems as well as social and educational systems.

Focus of the Indicators. Existing health indicators focus on many levels and aspects of health and the health system. Questions for the Committee include: Do we want to measure health results, causal factors, or both? Do we want to measure processes and prevention activities? Do we want to focus on individual risk factors or expand to social, community, and economic factors associated with health risks? How many and what types of factors can be included and still have a short report card that has coherency and vision? These are tough questions that were revisited by the Steering Committee throughout their deliberations.

Measures such as years of healthy life and morbidity and mortality rates are measures of health status or results. The result measures summarize the impact of many factors throughout the life cycle of individuals and populations. Results are the favored type of measure in many disciplines and can serve a useful purpose. However, the public and community health disciplines focus significant measurement effort on "upstream" factors in addition to health results. For example, public health has long focused on prevention. Thus, many common health measures, such as immunization rates, are of preventative activities. There is also a strong tradition of focusing on factors that contribute to health or on the causes of poor health. A focus on causality is useful in developing effective interventions.

Health indicators proliferate because causality across the broad range of health and disease is complicated. And our understanding of causality leads to even more complexity with findings about the health consequences of social and economic factors. Health measurement has tended to focus on individual behaviors and risk factors related to health, disease, and injury. Tobacco use, substance abuse, obesity, physical activity, drunk driving and unsafe sex are

among the risk factors commonly measured. These factors are clearly important, but much of the variance in health and disease is left unexplained with an individual-based explanatory model. There is growing literature and research that suggests that the health of the community itself affects the health of its members. That literature reports the independent contribution that social and economic relationships, such as discrimination and workplace autonomy, have on health.

Adding a community/social/economic dimension to health measurement compounds the complexity of an already complex field. Not only are there more measurement possibilities, but many of these issues are fraught with political and ideological implications. Poverty, discrimination, land-use, and education all have significant political dimensions. While the public health field has been a leader in maintaining a focus on results in the face of ideology, there is a limit to how many of those issues any field can wisely address.

At their first meeting, the Steering Committee reviewed and discussed existing indicator sets and tentatively determined the audience (public, with other stakeholders including policy makers, local public health, private health providers), purpose (engage and learn) and accountability (broad-based public and private health) for the report card. With respect to focus, the Steering Committee tentatively agreed to include both health status (results) and causal factors in the report card, and to include both individual risk factors and social/economic/community factors. The parameter of 10 to 20 indicators was established. They initially proposed that the indicators would consist of:

- At least one indicator of health status (results), such as
    - DALY (Disability Adjusted Life Years)
    - Perceived health status
- At least one indicator that addresses the health care system (perhaps from the Pulse Indicators), such as
    - Uninsured
    - Potentially avoidable hospitalizations
    - Level of consumer choice
    - Health care spending per capita
    - Late stage diagnosis for cancer
    - Regular source of health care
    - Number of providers accepting patients
- Key risk factors—one of which will involve a prevention strategy
    - Tobacco use
    - Obesity
    - Substance abuse
    - Immunization
- At least one social determinant of health
    - High school graduation
    - Poverty
    - Income inequality
    - Debt
    - Affordable housing/homeless
    - Employment
- Possibly a measure of violence/injury

    - Family violence
    - Youth access to guns/firearms
- Possibly a measure(s) re children
    - Infant mortality
    - Child abuse
    - Low birth weight
- Possibly an environmental measure
    - Emerging infectious diseases
    - Water safety
- At least one measure of mental health, such as
    - Isolation
    - Functioning

Operating Guidelines

The Steering Committee imposed few constraints on their process or substantive decisions. They operated via consensus. While unanimity was not always achieved, a strong consensus developed prior to final decisions. The only other operating guidelines that directed the Committee's deliberations involved 1) standards for including causal indicators; 2) a focus on health rather than disease; and, 3) an expansive role with respect to existing data.

The Steering Committee was clear from the outset that there were two standards for the inclusion of causal indicators. First, that the indicators would be based on the best science available. Second, that the causal indicators would be "robust"—that is, they would be meta-determinants that appear in multiple critical pathways. The behavioral factors of tobacco, nutrition, exercise, and substance abuse are clearly meta-determinants in that they affect many aspects of health and disease. Social factors like class, poverty and education also affect many aspects of health. The safety of our food, water and air and responsiveness of the health care system impact health in multiple ways.

The use of meta-determinants provides the means by which to talk about significant continuing and emerging health factors, without having to have an extensive laundry list of all health factors. For example, a meta-determinant like substance abuse offers the means to discuss motor vehicle deaths due to drunk drivers. A healthy life expectancy indicator offers the means to discuss reduced life expectancy due to fatal car accidents involving young, or older, drivers. Substance abuse provides the means to talk about violent crime, including domestic violence and use of firearms. In this case, the relationship might be correlational rather than causal, but the discussion can still occur. Focusing on these key determinants for multiple outcomes is the only way that the Steering Committee thought they could create a coherent and meaningful report card that was also of manageable length.

Another operating guideline was to focus on health rather than disease. Including a global measure of health like Years of Healthy Life provides a significant summary of health and it becomes less necessary to track specific diseases. But the Committee also rejected "obesity" in favor of "nutrition" and "physical activity" in light of the focus on health rather than disease.

A final operating guideline emerged from early discussions as to whether the Committee would limit the report card to indicators for which data already existed. They decided to not limit themselves. The Committee was pragmatic in their considerations. When two indicators under consideration were similar with respect to explanatory power, but one was easy to measure and the other was difficult or impossible, the Committee opted for the easy to measure indicator. However, the Committee saw their work in leadership terms and saw the report card as a tool to assist in improving health. When they were convinced that a hard to measure indicator was very important, they deemed that it should be included, and that leadership needed to be exerted to develop appropriate measures and data.

Organizing Structure of the Report Card

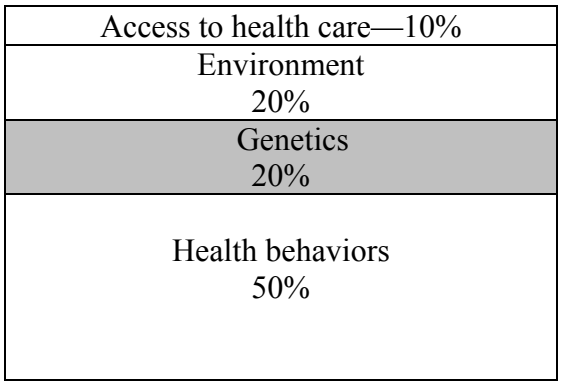
It is sobering to consider all of the high-quality health and community indicator sets that have been developed and that are competing for attention. Thinking the report card through in a way that engages and mobilizes audiences was one of the biggest challenges the Committee faced.

Most health and community health indicator sets are presented as lists, divided into categories. The categorical scheme varies from set to set, but there are usually seven to twelve or so categories within which dozens of indicators are sorted.

Even with the more limited number of indicators planned for the report card, it was clear that the presentation had to be simple and coherent. It also needed to be memorable, in the sense that a citizen who saw the report card would be able to remember and relate to its key features.

For the second Steering Committee meeting, causal indicators were presented within the Center for Disease Control (CDC) health determinants model depicted in Figure 8. The figure was not presented at that time, but the briefing paper for the meeting organized the indicators around those determinants.

Figure 8 – Center for Disease Control: Health Determinants



The CDC model kept the relative importance of types of indicators front and center for the Committee throughout their deliberations. That helped to sort out the relatively less important indicators more quickly.

At the second meeting, a possible organizational structure was also discussed. The organization separated health status/results from causal factors, and separated causal factors into individual risk factors and environmental factors. The environmental factors included physical, social/community, and health system indicators. There was particular discussion about conceiving of the environmental factor so broadly. It was noted that physical and social environments were usually placed in separate categories, as were health system indicators. A couple of members strongly advocated for a broad conceptualization of environment. The others acquiesced, and we continued with that general organizational structure.

There was substantial discussion about specific indicators at the second meeting. Immediately after the meeting, the first report card was drafted using the organizing concepts that had been discussed at the meeting. The structure of the report card was similar to the final version, with the global measures of health at the top, the environmental indicators on the left, and the individual risk factors on the right. The presentation of the indicators was in the form of queries in order to make the report card more conversational, and hopefully, engaging.

It quickly became clear that there were important individual behavioral aspects to the indicators on the environmental side of the report card, and there were important environmental aspects to the indicators on the individual risk side. For example, washing hands is a critical part of keeping food safe, but food safety is also dependent on monitoring and enforcing regulations throughout food production, processing, and commercial preparation. And laws, regulations, and enforcement around tobacco use affect individual use of tobacco, as well as exposure to second hand smoke.

Everyone agreed that the “environmental” and “behavioral” sides of the report card were inter-related. But the member’s response to that inter-relationship differed. Some members questioned the strict and visual division presented in the report card, and suggested that a single list of factors that did not designate “environment” or “behaviors” would present a more accurate picture. Others, however, felt that the presentation fostered discussions about the inter-relationship between environment and behavior. Interventions on both sides of the report card could be environmental and/or behavioral, and having the sides so labeled helps keep both types of options in front of people.

A consensus ultimately emerged to maintain the “environmental” and “behavioral” sides to the report card. That structure conforms to the CDC health determinant model, and it was thought that the correspondence helps to communicate critical information about health to the public. The figure in Appendix C illustrates the use of the CDC model in developing the report card.

3. Indicators and Measures

The discussions around indicators and measures were rich, thoughtful and wide-ranging. Obviously, a short report card cannot possibly reflect all of the good ideas shared in the process, and this is an effort to communicate at least some of the ideas raised during deliberations. This section presents each indicator in the report card followed by a summary of key discussion about the

indicator and others that were considered. This is followed by a brief discussion of the measures selected and considered for the indicator. Other key discussion issues are addressed throughout the section in the appropriate substantive area.

Global Indicators

"How healthy are we?" The report card contains three indicators for determining how healthy Washingtonians are. The health of the population is the ultimate outcome.

***Years of Healthy Life*.** This indicator is used in Healthy People 2010 and it combines life expectancy with quality of life. Quality of life includes reported levels of functioning and absence of pain.

DALY (Disability Adjusted Life Years) and DALE (Disability Adjusted Life Expectancy) measures were considered along with Years of Healthy Life. The DALY and DALE measures were criticized for essentially equating disability with disease in the calculation of the index. The methodology makes an explicit assumption that years lived with disability are "lost" years or "burdened" years. The World Health Organization moved away from DALE measures to a Disability Assessment Schedule II (WHODAS II). As noted earlier in the report, this new measure treats all disorders at parity when determining level of functioning. The domains of functioning assessed by the WHODAS II include understanding and communicating, getting around, self-care, getting along with others, household and work activities, and participation in society. It assesses functioning at the individual level instead of the disorder-specific level and therefore the total impact of co-morbid conditions (e.g., depression and diabetes) is straightforward to assess.

Given the *Healthy People 2010* reliance on Years of Healthy Life, there was no reason to use DALY, DALE, or WHODASII measures. The measures used by *Healthy People 2010* can be calculated in large part with data collected with the Behavioral Risk Factor Surveillance System (BRFSS) Questionnaire. That survey is conducted in Washington state, making Years of Healthy Life the pragmatic and better choice.

> ***The measure.*** Years of healthy life is measured by combining an abridged life table and age-specific estimates of health-related quality of life. The abridged life table assumes that a hypothetical cohort is subject throughout its lifetime to age-specific death rates observed for the actual population for that year. Health-related quality of life includes self-perceived health as measured by the survey question "Would you say that in general your health is: excellent, very good, good, fair or poor?" and activity limitation (not limited, not limited in major activity, limited in major activity, unable to perform major activity, unable to independently perform instrumental activities of daily living, unable to independently perform self-care activities of daily living).
>
> Perceived health and activity limitation data is available through BRFSS. The current activity limitation question in BRFSS is "During the past 30 days, for about how many days did poor physical or mental health

keep you from doing your usual activities, such as self-care, work, or recreation?" An expansion of this survey section might be necessary to better measure activity limitations.

Perceived mental health. Years of healthy life focuses primarily on physical health. Perceived mental health addresses reported level of functioning related to a person's mental state.

From the beginning, the Steering Committee wanted to ensure that mental health issues were included in the report card. There was some discussion about causality—does poor mental health cause poor physical health or vice versa? Are physical and mental health independent of each other or inter-dependent? Ultimately, the Committee determined that it did not need to sort that out. It was included as a global "ultimate outcome" measure of health on a parity with physical health.

> ***The measure.*** Perceived mental health is measured with the survey question "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" This question is included in the Behavior Risk Factor Surveillance System.

Readiness to learn. Early childhood is a particularly important stage of life with respect to health. The foundation laid in the early years greatly influences health throughout a person's lifetime. Readiness to learn reflects healthy brain development, good nutrition, medical care in the form of immunizations, and age appropriate social development.

Readiness to learn was the last global measure added to the report card. The Steering Committee had discussed the issue of vulnerable populations throughout their deliberations. Children were of special concern because what happens health-wise at an early age affects health throughout the lifetime. From a practical perspective, the issue of children engages the public. Other vulnerable populations discussed were the elderly and special needs populations.

The concern with vulnerable populations and the desire to highlight those issues in the report card conflicted with the need to keep the report card short. The report card will address vulnerable populations in two ways: first with a global measure of readiness to learn. That indicator brings child health to a parity with adult health. The other way in which vulnerable populations will be addressed is by disaggregating data by subpopulations, where feasible and relevant. Disaggregation will necessitate enhanced data collection. At this point, sampling for the BRFSS survey is not designed to support disaggregation. The sample design, including the number of households surveyed will need to be expanded to support disaggregation.

> ***The measure.*** A measure was not identified for this indicator. There is currently no direct measure of readiness to learn. The most common proxy measure for this indicator is enrollment in pre-school education programs. This proxy measure suffers from several shortcomings, most notably that there are not adequate standards for

judging pre-school programs. There is a need to develop a reliable, direct measure of readiness to learn.

"How safe and supportive are our surroundings?"

"*How safe are our food, water and air?"*

***Safe food and water*.** Safe food and water tend to be taken for granted in this country because public health has done such a good job in ensuring that safety.

One of the major discussion points about water safety was whether the scope should be limited to drinking water. Most members thought that is the issue the public cares most about. However, the issue of safe environmental water (lakes, streams) was of major concern to some members given its impact on recreation and seafood and fishing. The Committee did not expand the scope of the water indicator for two reasons: it did not rise to the meta-determinant level in combination with the fact that there is no existing data source that reports that information.

The measure. Two measures were identified for safe food and water. The first measure is total number of cases for illnesses commonly associated with unsafe food and water. The illnesses included in the measure are:

acute viral gastroenteritis
campylobacteriosis
E. coli O157:H7 infection or hemolytic uremic syndrome
giardiasis
hepatitis A
listeriosis
salmonellosis
shigellosis
vibriosis (non-cholera)
yersiniosis

The second measure of food and water safety is percent of the population for whom drinking water systems are out of compliance with standards.

***Air quality*.** Preventative measures and enforcement of standards support clean outdoor air. High adherence to air quality standards is a consequence of those preventative and enforcement actions.

The measure. Ambient air standards cover the following components: particulate matter, carbon monoxide, nitrogen oxides, sulfur oxides, ozone and lead. The measure is the percentage of population for whom ambient air quality standards are not met.

"How safe and supportive are our communities?"

This was the area in which the Steering Committee most diverged from a traditional public health indicator set. It was also the area of greatest struggle. The research linking social and community factors to health is not as extensive as more traditional causal factors. The concepts were less familiar and therefore the members vacillated more between focusing on norms versus behaviors, or on interventions versus indicators.

The Committee initially looked at a menu of concepts—family violence, child abuse, motor vehicle accident death and injuries, livable wage (and other economic concepts) and social network. Other indicators discussed over the course of the work included discrimination, income inequality, education, debt, affordable housing, violent crime and employment.

Some members wanted to include indicators of community norms, such as norms around smoking and other factors that impact health. That approach was not taken because it is less direct than measuring the behavior itself (i.e., smoking, drinking), and norms are not demonstrably meta-determinants.

In talking about communities, it was easy for members to jump to the interventions they would like to see to improve health and to submit the interventions for inclusion as indicators. Causality is not always clear and it took time for the Committee to sort out the level and type of focus they wanted to take in this area. For example, some members proposed an indicator related to safe parks and sidewalks and calming traffic because it probably supports physical activity. Most members, however considered that an environmental intervention to increase health, rather than a causal factor of it.

After looking at the alternatives for community indicators, the two that stood out are poverty level as an economic indicator and social capital/connectedness (civic involvement and interpersonal trust). These two plus injuries and deaths were ultimately included in the community section of the report card. Occupational satisfaction was not included because it applies only to the portion of the population that is employed, and is therefore less inclusive than other measures.

Economic. Lack of economic means is associated with poor health outcomes.

> ***The measure.*** The economic measure selected is the % of Washington State households with incomes less than double the U.S. poverty threshold ($ 28,300 for family of three in the year 2000).
>
> Income inequality, livable wage, and poverty were the economic measures considered most during deliberations. Evidence suggests that income inequality affects health by leading to disinvestments in social capital (see below under social connectedness). Income inequality was discarded because there is little residual direct association between income inequality at the state level and mortality after investment in social capital has been controlled.

Livable wage was discarded because there was no agreed upon formula for establishing livable wage, and such a formula is inherently political. Poverty is also linked to disinvestments in social capital, but it maintains an independent effect on at least some health outcomes apart from its effect on social capital.

***Social connectedness*.** The type of relationship that people have with each other and with their communities has significant health consequences.

There are a number of inter-related concepts around the issue of connectedness. There is a bit of a hierarchy with social cohesion as the most "global." It refers to the extent of connectedness among groups in society. It is an ecological or group concept. Social capital refers to interpersonal trust, mutual aid, and reciprocity, all of which serve as resources for individuals and which facilitate collective action. Social capital is an ecological or collective concept that has its basis in individual behavior, attitudes and predisposition (social networks, civic involvement and interpersonal trust). Social capital is usually operationalized as the combination of civic involvement and interpersonal trust. These two attributes are reciprocal. Some research has found the relationship to be asymmetric, with the effect of civic engagement on interpersonal trust stronger than the reverse effect. Social capital, or its individual level manifestation of civic involvement and interpersonal trust have been found to be related to various health outcomes, such as mortality, heart disease, unintentional injury and stroke.

The measure. Civic involvement and interpersonal trust are the two common components of social connectedness. Civic involvement is measured by the survey item "Now we would like to know something about the groups or organizations to which individuals belong. Here is a list of various organizations. Could you tell me whether or not you are a member of each type?" Interpersonal trust is measured by the survey items, "In general, do you believe that most people try to be fair? ….try to be helpful?……can be trusted?" These items are not currently asked of a Washington State population sample and would need to be added to an existing survey. In addition to civic involvement and interpersonal trust, high school graduation rate is included as a measure of social connectedness. For adolescents, high school graduation rates are both a reflection of cohesive communities and a determinant of future health.

Injuries and death. The way that communities and living space are designed and maintained affect levels of unintentional injuries and death. Community norms, community cohesion and community law enforcement affect violence, both within and outside the family.

Domestic violence and child abuse have significant affects on health, apart from the specific physical injuries inflicted. There is enormous stress that accrues from those situations, and the impact tends to be inter-generational. Violent crimes other than those involving domestic violence and child abuse obviously can have serious health consequences—death and injury, as well as

stress from fear. Much of the violent crime is, however, directed against family members.

Violence against strangers is a more random act and therefore it has different consequences for health. Measures of violent crimes (e.g., Part I offenses) include offenses in which no physical injury occurred—brandishing, but not firing a gun, e.g., threats, inchoate offenses. Homicide, of course, does have a specific health consequence, as does suicide.

The measure. Unintentional injuries are measured as the number of injuries and number of deaths from the major causes, including traffic related, falls, poisoning, drowning and fires or burns.

Intentional injuries or violence is measured separately for family violence, child abuse and neglect and for homicides and suicides. Family violence is measured as the number of reported crimes involving domestic relationships. Child abuse and neglect is measured as the number of suspected cases accepted by Child Protective Services for investigation. Homicides and suicides are measured as the rate per 1000 of victims or deaths.

"How supportive is our health care system?"

Health insurance and ongoing source of primary care are two common measures used to assess access to quality health care. There is evidence that health insurance by itself is not sufficient to provide adequate access; thus the emphasis on ongoing sources of primary care. Other measures of access considered include:

- Potentially avoidable hospitalizations
- Level of consumer choice
- Health care spending per capita
- Late stage diagnosis for cancer
- Number of providers accepting new patients

The Committee decided to use unmet health care need as the measure. It is a more direct reflection of how the health care system is experienced.

Unmet need. The extent to which people can appropriately access the health care systems for physical, mental and drug needs affects health outcomes.

The measure. Unmet health care need is measured with a series of survey questions in the Behavioral Risk Factor Surveillance System. "In the last 12 months, were you or any adult in you household <u>unable</u> to obtain any type of health care you thought you needed?" This is followed by the query "In the last 12 months, did you or any adult in your household <u>experience difficulty or delay</u> in obtaining any type of health care you thought you needed?" These questions are repeated for children if there are any in the household.

Vaccine preventable diseases. Immunization to prevent once common diseases is one of public health's greatest contributions to health. Low incidence of vaccine preventable diseases reflects that success.

The measure. The number of cases of the following illnesses: pertussis, Haemophilus influenzae, measles, mumps, rubella, tetanus and Hepatitis A and B.

"How healthy are our behaviors?"

"Do we use tobacco products?" Tobacco is the leading preventable cause of death and disease in the United States. Smoking is a major risk factor for heart disease, stroke, lung cancer, and chronic lung diseases—all leading causes of death. Smoking during pregnancy can result in miscarriages, premature delivery, and sudden infant death syndrome. Other health effects of smoking result from injuries and environmental damage caused by fires. Environmental tobacco smoke (ETS) increases the risk of heart disease and significant lung conditions, especially asthma and bronchitis in children.

The Health of Washington State (HWS) reports that in 1993 21.8% of Washington adults reported current smoking. Almost half (48.9%) of 8th graders reported experimenting with tobacco in 1995.

The measure. The percentage of the population who report "not at all" to the survey question, "Do you now smoke cigarettes every day, some days, or not at all?" This question is included in the BRFSS survey.

"Do we get good nutrition?" Eating a minimum of 5 fruits or vegetables a day affects health by providing necessary nutrients, influencing fat intake and appropriate weight.

The Committee decided to focus on nutrition and physical activity instead of obesity, looking at health instead of disease.

The measure. A series of questions in the Behavioral Risk Factor Surveillance System asks about the frequency in which the individual eats or drinks fruit juice, fruit, green salad, potatoes, carrots, or other vegetables.

"Are we physically active." Physical activity is associated with appropriate weight, healthy cardiovascular systems, and reduction of injuries from falls, especially among the elderly. Thirty minutes of activity five days a week is the minimum recommended activity level.

The measure. The BRFSS survey asks "How many days per week do you do these [at work or in leisure] moderate activities for at least 10 minutes at a time?" and follows with the question, "On days when you do moderate activities for at least 10 minutes at

a time, how much total time per day do you spend doing these activities?"

"*Do we abuse alcohol or other drugs?"* Alcohol abuse undermines health in a variety of ways, most notably in contributing to liver disease. It is also associated with traffic fatalities. Alcohol abuse during pregnancy negatively affects fetal development.

Alcohol and illicit drug use are associated with child and spousal abuse; sexually transmitted diseases, including HIV infection; teen pregnancy; school failure; motor vehicle crashes; escalation of health care costs; low worker productivity; and homelessness. Alcohol and illicit drug use also can result in substantial disruptions in family, work, and personal life.

Alcohol abuse alone is associated with homicides, suicides, and drowning—leading causes of death among youth. Long-term heavy drinking can lead to heart disease, cancer, and pancreatitis.

The measure. The following question is used to identify binge drinking, which suggests alcohol abuse: "Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more drinks on an occasion?"

Appendix A - Steering Committee, July 2000

Bill Beery, Vice President, Programs
Group Health /Kaiser Permanente Community Foundation

Joan Brewster, Director
Department of Health, Public Health Systems Development

Jac Davies, Assistant Secretary
Department of Health, Epidemiology, Health Statistic and Public Health Laboratories

Marie Flake, Local Health Liaison
Department of Health, Public Health Systems Development

Maxine Hayes, MD, Health Officer
Department of Health

Ward Hinds, MD, Health Officer
Snohomish Health District

Heidi Keller, Director
Department of Health, Office of Health Promotion

Patricia Lichiello, Senior Policy Analyst
Health Policy Analysis Program, University of Washington

Tannis Marsh
Citizen, Everett, Washington

Sherri MacDonald, Deputy Director
Thurston County Health Department

Edward Perrin, Professor Emeritus
University of Washington

Laura Porter, Staff Director
Family Policy Council

Connie Revell, Executive Director
Community 2010 Choices

Ree Sailors, Executive Policy Advisor
Office of Financial Management

Katharine Sanders, Director, Healthy Communities
Washington Health Foundation

Art Sprenkle, M.D.
Premera Blue Cross

David Swink, Environmental Health Director
Spokane Regional Health District

Juliet VanEenwyk, PhD, Director
Department of Health, Non-Infectious Conditions Epidemiology

Elizabeth Ward, Chief Executive Officer
Foundation for Health Care Quality

Appendix B -- Indicator Sets

Health of Canadians

Determinants of Health

The social and economic environment
Population age and sex
Marital status and family composition
Births and fertility
Immigrant population
Education and literacy
Low income
Employment and unpaid work
Life stress
Work stress
Family violence
Social health

The physical environment
Restrictions on public smoking
Exposure to environmental tobacco smoke
Air quality

Health services
Immunization
Pap smear practices
Mammograms and breast examinations
Blood pressure checkup
Visits to health professionals
HIV testing
Dental visits
Physical examinations
Eye examinations
Medications
Unmet health care needs
Emergency health services
In-patient hospital care
Organ replacement and dialysis
Health expenditures

Personal resources and coping
Social support and pro-social behavior
Healthy child development
Giving and receiving informal care
Care-giver burden
Use of home care services
Use of alternative health care

Health Knowledge
Knowledge of the health impact of smoking
Knowledge of the health impact of ETS
Knowledge of healthy eating practices

Lifestyle behaviors
Environmental actions
Smoking
Nicotine dependence
Drinking
Problem drinking
Driving after drinking
Illicit drug use
Physical activity
Dietary practices
Breast-feeding
Helmet and seatbelt use
Sexual practices
Sun exposure and protection
Health behavior changes

Health Status

Well-being
Self-rated health status
Positive mental health
Job satisfaction

General health and function
Functional health status
Two-week disability days
Long-term activity limitation
Conditions causing activity limitation

Injuries
Hospitalization due to trauma
Time-loss work injuries
Childhood injuries
Motor vehicle traffic crashes

Conditions and diseases
Teen pregnancy and underweight births
Stillbirths and birth defects
Therapeutic abortions
Body weight
Chronic conditions
Vaccine-preventable diseases
Sexually transmitted diseases
HIV/AIDS/TB
Enteric, foodborne, and waterborne diseases
Cancer
Heart disease and stroke
Depression
Psychiatric hospitalization
Causes of hospitalization

Death
Infant and perinatal death
Mortality attributable to smoking
Alcohol-related deaths
Suicide
Age-standardized mortality rates
Potential years of life lost
Total life expectancy

NACCHO
NATIONAL PUBLIC HEALTH PERFORMANCE STANDARDS

Health Status Monitoring

Socio-demographic characteristics

Mortality

Morbidity

Health risk factors

Environmental risks

Access indicators for personal health care services

Availability of personal health care services

Utilization of personal health care services

Access to population-based public health services

Availability of population-based public health services

Utilization of population-based public health services

Geographic barriers to health services

The Health of Washington State

General Health Status
- Total Deaths, Leading Causes, and Life Expectancy
- Self-Reported Health Status
- Hospitalizations

Major Risk and Protective Factors
- Tobacco Use and Exposure
- Alcohol and Drug Disorders
- Physical Inactivity
- Sexual Behavior
- Nutrition
- Social Determinants of Health
- Environmental Health Risks

Infectious Disease
- Childhood Immunization
- Tuberculosis
- Hepatitis A
- Hepatitis B
- Meningococcal Disease
- HIV/AIDS
- Syphilis
- Gonorrhea
- Chlamydia

Non-Infectious Disease
- Coronary heart disease
- Stroke
- High Blood Pressure
- All Cancer
- Lung Cancer
- Colorectal Cancer
- Cervical Cancer
- Chronic Obstructive Pulmonary Disease
- Diabetes

Violence and Injury
- Motor Vehicle Deaths
- Youth Suicide
- Hip Fractures Among People 65 +
- Head and Spinal Cord Injuries
- Homicide
- Child Abuse and Neglect
- Youth Arrests for Serious Violent Crime

Family and Individual Health
- Prenatal Care
- Adolescent Pregnancy
- Unintended Pregnancy and Birth
- Low Birth Weight
- Infant Mortality

Environmental Health
- Water System Compliance
- On-site Sewage Systems
- Foodborne Illness Outbreaks
- Hazardous Substance Disease Clusters
- Fatal Occupational Injuries
- Occupational Lead Poisoning & overexposure

Health Systems
- Health Insurance Coverage
- Access to Essential Health Services
- Availability of Primary Health Care
- Emergency Medical Services Response times
- Health Professional Quality Assurance
- Health Facilities and Services Quality assurance
- Laboratory Proficiency Testing

Health Status of Thurston County

- The physical environment
  - Air quality
  - Drinking water
  - Food safety
  - Ground water
  - Hazardous waste
  - Shellfish
  - Solid waste
  - Vector and zoonotic diseases
  - Wastewater
  - Unintentional injury
    - Drowning
    - Falls and Related Injuries
    - Motor Vehicle Crashes
    - Residential Fires

- Social Environment
  - Arrests of juveniles and adults
  - Child abuse and neglect
  - Domestic violence
  - Intentional injury
    - Firearms
    - Homicide
    - Suicide and depression
  - Mental health
  - Substance abuse and misuse
  - Weapons in school

- Clinical health issues
  - Health systems
    - Health insurance coverage
    - Primary care availability
    - Quality assurance, quality improvement
    - Health facilities
  - Infectious diseases
    - Vaccine preventable diseases
    - Viral Hepatitis
    - Tuberculosis
    - Sexually transmitted diseases
    - Intestinal disease
    - Pneumonia and influenza
    - Dental health
    - Vector and zoonotic diseases
  - Noninfectious (chronic) disease
    - Coronary heart disease
    - Stroke
    - All cancer
    - Lung cancer
    - Colorectal cancer
    - Female breast cancer
    - Cervical cancer
    - Oral cavity and pharynx cancer
  - Noninfectious (chronic) disease, cont.
    - Chronic obstructive pulmonary disease
    - Diabetes
  - Pregnancy and birth
    - Birth rates
    - Births by age of mother
    - Unintended pregnancy and birth
  - Prenatal care
    - Low birth weight
    - Substance abuse and misuse during pregnancy

Health of King County

- General Health Status
  - Total Deaths
  - Leading Causes of Death
  - Life Expectancy
  - Years of Potential Life Lost
  - Leading Causes of Hospitalization
  - Leading Causes of Disability
  - Quality of Life
- Maternal and Infant Health
  - Birth
  - Pregnancy and Abortion
  - Unintended Pregnancy
  - Infant Mortality
  - Birth Risk Factors
- Risk Factors for Chronic Disease and Injury
  - Smoking
  - Alcohol Misuse
  - Hypertension
  - Overweight
  - Physical Inactivity
  - High Blood Cholesterol
  - Consumption of Fruits and Vegetables
  - Seatbelt and Helmet Use
  - Firearms Kept in the Home
- Chronic Diseases
  - Coronary Heart Disease
  - Stroke
  - Cancer
    - Lung Cancer
    - Colorectal Cancer
    - Female Breast Cancer
    - Cervical Cancer
    - Prostate Cancer
  - Chronic Obstructive Pulmonary Disease
  - Diabetes
  - Chronic Liver Disease and Cirrhosis
- Injury and Violence
  - Motor Vehicle Crashes
  - Falls and Hip Fracture
  - Homicide
  - Other Serious Violent Crimes
- Communicable Diseases
  - HIV/AIDS
  - Sexually Transmitted Diseases
  - Tuberculosis
  - Hepatitis A
  - Hepatitis B
- Communicable Diseases, Continued
  - Hepatitis C
  - Vaccine Preventable Diseases
  - Pneumonia and Influenza
  - Enteric Diseases
- Environmental Health
  - Air Quality
  - Asthma Hospitalization
  - Water Quality and Waterborne Illnesses
  - Foodborne Illnesses
  - Hazardous Substances
- Mental Health
  - "Not Good Mental Health Days"
  - Depression
  - Bipolar Disorders and Schizophrenia
  - Suicide
  - Substance Abuse
- Access to Care
  - Insurance Coverage
  - Usual Source of Care
  - Oral Health Care Access
  - Unmet Medical Need
  - Avoidable Hospitalizations

Local Public Health System Performance Standards Instrument Domains

Environmental health

Demographic characteristics

Socioeconomic characteristics

Community health status

Maternal and child health

Behavioral risk factors

Sentinel events

Social and mental health

Infectious disease

Health resources

Community Counts 2000
Social and Health Indicators in King County

Basic Needs: Social Determinants of Well Being
- Adequate Food
- Livable Wage Income
- Income Distribution
- Social Support
- Freedom from Discrimination Experience
- Freedom from Hate Crimes

Positive Development Through Life Stages
- Family Friendly Employment Benefits
- Parent/Guardian Involvement in Child's Learning
- Quality Affordable Childcare
- Developmental Assets, Risk and Protective Factors
- Academic Achievement Assessment
- Graduation Rate
- Positive Social Values and Behaviors in Youth
- Participation in Life Enriching Activities

Safety and Health
- Perceived Neighborhood Safety
- Crime: Total Crime Rate
  - Murder Rate
- Motor Vehicle Crash: Deaths
  - Hospitalizations
- Family Violence: CPS Referrals
  - Domestic Violence
- Infant Mortality
- Teen Births
- Stress
- Tobacco and Alcohol: Adult Tobacco Use
  - Youth Tobacco Use
  - Adult Alcohol Use
  - Youth Alcohol Use

- Physical Activity and Weight: Activity, Overweight
- Restricted Activity Due to Poor Health
- Health Insurance Coverage and Access

Community Strength

- Neighborhood Social Cohesion
- Involvement in Community Organizations
- Institutional Support for Community Service
- Pollution in Neighborhoods
- Ease of Access to Shops and Services

Appendix C – CDC Model and Report Card Structure